

COMMONWEALTH OF MASSACHUSETTS  
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO THE  
THIRD SET OF INFORMATION REQUESTS FROM THE D.T.E.  
D. T. E. 05-27

Date: August 23, 2005

Responsible: Danny G. Cote, General Manager

**BULK ATTACHMENT**

RR-DTE-135: Regarding DTE-3-25, review the actual costs in the summary page and reconcile them with the costs indicated in the supporting documentations for each project

Response: Please see Attachment RR-DTE-135 (a1), Attachment RR-DTE-135 (a2), and Attachment RR-DTE-135 (b) for tables and reports that summarize the 40 Non-Discretionary Non-Plant Additions projects.

On Attachment RR-DTE-135 (a1) ("Non-Discretionary Non-Plant Additions > \$100K"), which is a similar table to what was filed as part of DTE-3-35, the column headings include (1) the list number, which corresponds to the list of investments first reported by the Company in Exh. BSG/DGC-10, (2) the year the project was undertaken, (3) Referenced Account, the Uniform System of Accounts number assigned by the Department, (4) the project name, which generally describes the project, (6) total costs associated with each project, (7) the authorization number used to charge expenses to a given project, (8) the report type and the source of the data supporting each investment, and (9) Attachment RR-DTE-135 (b) page number and notation reference, which is a hand written system established to cross reference the authorization charges (ADDITIONS) closed to plant and Attachment RR-DTE-135 (b), as explained below.<sup>1</sup>

On Attachment RR-DTE-135 (a2) ("Reconciliation of DTE-3-25"), the column headings include (1) the list number, which corresponds to the list of investments first reported by the Company in Exh. BSG/DGC-10, (2) the project name, which generally describes the project, (3) the page number referenced in Col. 9 of Attachment RR-DTE-135 (a) related to the cost documentation provided in Attachment RR-DTE-135 (b), (4) the notation letter referenced in Col. 9 of Attachment RR-DTE-135 (a) related to the cost documentation provided in Attachment RR-DTE-135 (b), and (5) the amount of the charges (ADDITIONS) closed to plant, referenced in (3) and (4), and highlighted in Attachment RR-DTE-135 (b), as explained below.

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<sup>1</sup> There was no column (5) included on the summary report for DTE-3-25, filed June 9. Columns (8) and (9) represent new information relevant to the Company's reconciliation.

Attachment RR-DTE-135 (B) generally consists of Lawson General Ledger (GL290 Detail) reports, including account activity, for each project completed between the years 2000 through 2004. In DTE-3-25, the Company provided annual GL290 data in an EXCEL pivot table format. For projects completed in the years prior to 2000 limited detail data is available.<sup>2</sup> Therefore, in preparation of this response, the Company was not able to produce GL290 Detail reports for all of the investments made prior to 2000. However, GL290 balances are presented in EXCEL pivot table format and supplemented with reports from the Company's Asset Management System (AM70 and AM20). For the E- 104 LNG Plant project, List No. 8, and the Ludlow LNG (Recharge Dehydrators), List No. 10, cost detail is provided from the Company's Activity Based Costing System. For the Mobile Data project, List No. 40, the Company compiled project costs using various internal analyses and records.

The GL290 reports, generated from the Company's general ledger, reflect the accumulation of charges and expenses for a specific authorization. The charges and expenses originate from amounts recorded in both the Company's Accounts Payable and Payroll systems. Expense amounts that are capitalized are "closed" (transferred) to the Asset Management System and are designated as an "ADDITION" line item on the GL290 Detail report. Once these "ADDITIONS" are transferred to the Asset Management system they are considered booked to the Company's plant accounting system.

The AM70 and AM20 reports, generated from the Company's Asset Management System, reflect the amount booked to the plant accounting system. The charges and expenses originated from amounts recorded in the general ledger.

The WP611 reports, generated from the Company's Activity Based Costing / Work Performance Management System, reflect the amount booked to the plant accounting system. The charges and expenses originated from amounts recorded in the general ledger.

The costs information for List No. 40, Mobile Data, was compiled from internal analyses and records and is the best available information.

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<sup>2</sup> For years prior to 2000 only account period balances are retained and available.

## ATTACHMENT RR-DTE-137 (a)

### Summary Report Design for

Attachment DTE-3-22 Revised & Attachment DTE-3-27 Revised

Revenue Producing Plant Additions Account 367 (Mains) > \$100K												
Col. 1 List No.	Col. 2 Yr	Col. 3 Location	Col. 4 Internal Hurdle Rate for Project Approval (%)	Col. 5 Pre - Construct Estimated IRR (%)	Col. 6 Estimated Cost - Mains <sup>1</sup>	Col. 7 Actual Cost - Mains <sup>2</sup>	Col. 8 Amount the Estimate Varied from Actual Cost (+/(-))	Col. 9 Percentage of Actual Cost Over or Under (-) in relation to Estimate (%)	Col. 10 Total <sup>3</sup> Cost - Mains	Col. 11 Total <sup>4</sup> Cost - Project	Col. 12 Post - Construct IRR (%) <sup>5</sup>	Col. 13 Project ID
1	2001	West Springfield/ ConEd	10%	16%	\$1,152,300	\$858,993	(\$293,307)	-25%	\$908,784	\$1,100,594	19%	S01D1038
2	2001	Foxboro/Gillette Stadium - Washington St.	10%	16%	\$156,116	\$238,598	\$82,482	53%	\$271,369	\$314,580	11%	B01D0041

Basis for Cost Variation: Washington Street, Foxboro, is Route 1. The project aligned with the demolition of the New England Patriot's Foxboro Stadium, the construction of the new CMGI (now Gillette) Stadium and major highway reconstruction to accommodate increased traffic. Elevation changes, road widening, depth of cover problems, and the need to coordinate utility construction with all other site activity resulted in considerable unexpected additional costs. In areas, Bay State's main had to be installed in atypically deep trenches. In other areas, the existing main required cover after final grade changes and extra cost was incurred to lower the main beneath the paved roadway. These were activities that could not be anticipated in advance and increased construction cost.

- <sup>1</sup> Estimated Cost - Mains is Direct Main Cost only.  
<sup>2</sup> Actual Cost - Mains is Direct Main Cost only.  
<sup>3</sup> Total Cost - Mains is Actual Indirect and Direct Main Costs for the Project.  
<sup>4</sup> Total Cost - Project is Actual Indirect and Direct Main, Service and Meter Costs for the Project.  
<sup>5</sup> Post-Construct IRR is determined by Total Cost and Realized Customer Additions

## ESTIMATED COST

Col. 6 Estimated Cost - Mains<sup>1</sup> = \$156,116

## Direct Cost From Main Authorization Form

Materials + \$41,568  
 Company Labor + \$ 4,501  
 Purchases + \$110,047  
 Total DIRECT COST = \$156,116

Overheads + \$36,830  
 Total w/Overheads = \$192,946

## BSG/NU Construction Authorization Order

Project ID# B01D0041Work Code MNNCCField Location: BrooklineROR / MIS: Page 16 of 15Hurdle Rate: 10.00%

DESCRIPTION OF PROJECT: NEW MAIN  
 Cost to provide gas service to the new CMGI Field and related facilities.

Bay State gas to dig &amp; backfill

# Services 4 Total Service Cost \$ 23087 Cust. Contribution 0

## COST RECORD

	Budget	Actual	Variance
Materials	41568		
Company Labor	4501		
Purchases	110047		
Overheads	36830		
Total	192746		

Today's Date: 7/16/01Start Date: 11-75-01Comp Date: TMSEstimator: FurladoSales Rep: FurladoCIS #: 1041208

Revenue Producing Plant Additions Account 367 (Mains) > \$100K												
Col. 1 List No.	Col. 2 Yr	Col. 3 Location	Col. 4 Internal Hurdle Rate for Project Approval (%)	Col. 5 Pre-Construct Estimated IRR (%)	Col. 6 Estimated Cost - Mains <sup>1</sup>	Col. 7 Actual Cost - Mains <sup>2</sup>	Col. 8 Amount the Estimate Varied from Actual Cost (+/-)	Col. 9 Percentage of Actual Cost Over or Under (-) in relation to Estimate (%)	Col. 10 Total <sup>3</sup> Cost - Mains	Col. 11 Total <sup>4</sup> Cost - Project	Col. 12 Post-Construct IRR (%) <sup>5</sup>	Col. 13 Project ID
1	2001	West Springfield/ConEd	10%	16%	\$1,152,300	\$858,993	(\$293,307)	-25%	\$908,784	\$1,100,594	19%	S01D1038
2	2001	Foxboro/Gillette Stadium - Washington St.	10%	16%	\$156,116	\$238,598	\$82,482	53%	\$271,369	\$314,580	11%	B01D0041

Basis for Cost Variation: Washington Street, Foxboro, is Route 1. The project aligned with the demolition of the New England Patriot's Foxboro Stadium, the construction of the new CMGI (now Gillette) Stadium and major highway reconstruction to accommodate increased traffic. Elevation changes, road widening, depth of cover problems, and the need to coordinate utility construction with all other site activity resulted in considerable unexpected additional costs. In areas, Bay State's main had to be installed in atypically deep trenches. In other areas, the existing main required cover after final grade changes and extra cost was incurred to lower the main beneath the paved roadway. These were activities that could not be anticipated in advance and increased construction cost.

## FOOTNOTES

- <sup>1</sup> Estimated Cost - Mains is Direct Main Cost only.
- <sup>2</sup> Actual Cost - Mains is Direct Main Cost only.
- <sup>3</sup> Total Cost - Mains is Actual Indirect and Direct Main Costs for the Project.
- <sup>4</sup> Total Cost - Project is Actual Indirect and Direct Main, Service and Meter Costs for the Project.
- <sup>5</sup> Post-Construct IRR is determined by Total Cost and Realized Customer Additions.

## ACTUAL COST

Col. 7 Actual Cost - Mains = Mains is Direct Main Cost Only

Col. 10 Total Cost - Mains = Mains is Actual Indirect & Direct Main Costs for the project

List No. 2

Project:  
LocationB01D0041  
Foxboro / Gillette Stadium, Washington Street

Main Work Output #	Direct Cost	Overhead Cost	Total Cost
150	\$ 2,268.67	\$ 4,983.04	\$ 7,251.71
151	236,329.01	27,789.09	264,118.10
Total	\$ 238,597.68	\$ 32,772.13	\$ 271,369.81

Project ID: B01D0041  
From Date: 12/31/1992  
To Date: 12/31/2004

Bay State Gas - Work Management System  
Detail Project Cost Report

Report Date: 6/13/2005  
Report Time: 7:11:56PM

Work Code	Town Code	At Street	Work Order	Pipe Type	Pipe Size	Comp Units	Hours	Labor	Purchases	Materials	Direct Cost	Average Cost	Overhead
TNNCB	165	0 Washington	4529112-1			1	45.97	1,337.14	173.25	758.28	2,268.67	2,268.67	4,983.04
		Subtotal for Washington				1	45.97	1,337.14	173.25	758.28	2,268.67	2,268.67	4,983.04
		Subtotal for Output No. 150				1	45.97	1,337.14	173.25	758.28	2,268.67	2,268.67	4,983.04
MNMC	165	0 Washington	4529039-1	PP	6"	5,040	150.94	6,285.41	196,181.25	22,843.61	225,310.17	44.70	22,101.54
MNMC	165	0 Washington	4529121-1	PP	2"	560	21.45	641.22	13,129.80	605.49	14,377.51	25.67	2,328.88
MNMC	165	0 Washington	4529165-1	PP	8"		29.54	-472.08	-9,834.44	7,024.60	-3,281.92		3,281.92
TNNCC	165	0 Washington	4529127-1										
TNNCC	165	0 Washington	4529168-1			5600	4.88	-331.95	255.20	0.00	-76.75		76.75
		Subtotal for Washington				5600	206.81	6,122.60	199,731.81	30,474.60	236,329.01	42.20	27,789.09
		Subtotal for Output No. 151				5,600	206.81	6,122.60	199,731.81	30,474.60	236,329.01	42.20	27,789.09
TIEM/C	165	48 Washington	4663984-1	PP	1 1/4"	1							
TIESC	165	48 Washington	4583932-1	PP	2"	1							
		Subtotal for Washington				2							
		Subtotal for Output No. 103				2							
		Total for Project ID: B01D0041				5,603	252.78	7,459.74	199,905.06	31,232.88	238,597.68	42.68	32,772.13

## ATTACHMENT RR-DTE-137 (b)

### Project Reconciliation for Attachment DTE-3-22 Revised

List No. 1 of Attachment DTE-3-22 Revised,  
West Springfield / ConEd

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-22 Revised  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
513,878		104,880		533,542		1,152,300		-		1,152,300

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-22 Revised  
Page 1

Col. 10 of  
Attachment DTE-3-22 Revised  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ 233,569.39		\$ 16,599.78		\$ 250,169.17		
170	\$ 312,481.39		\$ 28,092.55		\$ 340,573.94		
171	\$ 312,942.45		\$ 5,101.36		\$ 318,043.81		
Total	\$ 858,993.23		\$ 49,793.69		\$ 908,786.92		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 1,152,300.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 858,993.23	Section 2, Column 2, Line 41
VARIANCE	\$ (293,306.77) =	Col. 8 of Attachment DTE-3-22 Revised

List No. 2 of Attachment DTE-3-22 Revised,  
Foxboro / Gillette Stadium

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-22 Revised  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
41,568		4,501		110,047		156,116		36,630		192,746

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-22 Revised  
Page 1

Col. 10 of  
Attachment DTE-3-22 Revised  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ 2,268.67		\$ 4,983.04		\$ 7,251.71		
151	\$ 236,329.01		\$ 27,789.09		\$ 264,118.10		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 238,597.68		\$ 32,772.13		\$ 271,369.81		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 156,116.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 238,597.68	Section 2, Column 2, Line 41
VARIANCE	\$ 82,481.68	= Col. 8 of Attachment DTE-3-22 Revised

List No. 3 of Attachment DTE-3-22 Revised,  
Mrthuen / Spicket Commons

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-22 Revised  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
13,536		4,691		75,311		93,538		11,878		105,416

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-22 Revised  
Page 1

Col. 10 of  
Attachment DTE-3-22 Revised  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ 76,431.92		\$ 7,037.33		\$ 83,469.25		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 76,431.92		\$ 7,037.33		\$ 83,469.25		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 93,538.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 76,431.92	Section 2, Column 2, Line 41
VARIANCE	\$ (17,106.08)	= Col. 8 of Attachment DTE-3-22 Revised

List No. 4 of Attachment DTE-3-22 Revised,  
Bridgewater / MCI Bridgewater

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-22 Revised  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
309,817		15,045		1,081,801		1,406,663		269,613		1,676,276

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-22 Revised  
Page 1

Col. 10 of  
Attachment DTE-3-22 Revised  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ 634,553.44		\$ 47,274.93		\$ 681,828.37		
151	\$1,136,685.92		\$ 84,334.29		\$ 1,221,020.21		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$1,771,239.36		\$ 131,609.22		\$ 1,902,848.58		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 1,406,663.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 1,771,239.36	Section 2, Column 2, Line 41
VARIANCE	\$ 364,576.36	= Col. 8 of Attachment DTE-3-22 Revised

List No. 5 of Attachment DTE-3-22 Revised,  
North Andover / Brooks School

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-22 Revised  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
18,549		1,017		100,839		120,405		14,884		135,289

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-22 Revised  
Page 1

Col. 10 of  
Attachment DTE-3-22 Revised  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ 122,979.37		\$ 11,709.95		\$ 134,689.32		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 122,979.37		\$ 11,709.95		\$ 134,689.32		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 120,405.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 122,979.37	Section 2, Column 2, Line 41
VARIANCE	\$ 2,574.37	= Col. 8 of Attachment DTE-3-22 Revised

List No. 6 of Attachment DTE-3-22 Revised,  
Methuen / The Loop

Page 1 of 115

**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-22 Revised  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
57,082		4,960		142,057		204,099		47,087		251,186

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-22 Revised  
Page 1

Col. 10 of  
Attachment DTE-3-22 Revised  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ 3,953.30		\$ -		\$ 3,953.30		
151	\$ 69,531.59		\$ 4,516.90		\$ 74,048.49		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 73,484.89		\$ 4,516.90		\$ 78,001.79		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 204,099.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 73,484.89	Section 2, Column 2, Line 41
VARIANCE	\$ (130,614.11)	= Col. 8 of Attachment DTE-3-22 Revised

List No. 7 of Attachment DTE-3-22 Revised,  
Springfield / Van Sickle Public School

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-22 Revised  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
14,196		408		41,383		55,987		15,448		71,435

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-22 Revised  
Page 1

Col. 10 of  
Attachment DTE-3-22 Revised  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ 108,093.95		\$ 11,920.08		\$ 120,014.03		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 108,093.95		\$ 11,920.08		\$ 120,014.03		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 55,987.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 108,093.95	Section 2, Column 2, Line 41
VARIANCE	\$ 52,106.95	= Col. 8 of Attachment DTE-3-22 Revised

List No. 8 of Attachment DTE-3-22 Revised,  
Southwick / Sunnyside Ranch Road

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-22 Revised  
Page 2

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
9,927		720		45,522		56,169		10,385		66,554

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-22 Revised  
Page 2

Col. 10 of  
Attachment DTE-3-22 Revised  
Page 2

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ 159,891.98		\$ 9,065.24		\$ 168,957.22		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 159,891.98		\$ 9,065.24		\$ 168,957.22		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 56,169.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 159,891.98	Section 2, Column 2, Line 41
VARIANCE	\$ 103,722.98	= Col. 8 of Attachment DTE-3-22 Revised

List No. 9 of Attachment DTE-3-22 Revised,  
Raynam / King Phillip Estates

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-22 Revised  
Page 2

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
22,357		5,666		61,206		89,229		21,519		110,748

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-22 Revised  
Page 2

Col. 10 of  
Attachment DTE-3-22 Revised  
Page 2

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ 92,590.45		\$ 7,960.84		\$ 100,551.29		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 92,590.45		\$ 7,960.84		\$ 100,551.29		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 89,229.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 92,590.45	Section 2, Column 2, Line 41
VARIANCE	\$ 3,361.45	= Col. 8 of Attachment DTE-3-22 Revised

List No. 10 of Attachment DTE-3-22 Revised,  
South Hadley / rexham Graphics

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-22 Revised  
Page 2

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
82,530		4,050		187,505		274,085		85,285		359,370

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-22 Revised  
Page 2

Col. 10 of  
Attachment DTE-3-22 Revised  
Page 2

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ 241,973.33		\$ 13,846.96		\$ 255,820.29		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 241,973.33		\$ 13,846.96		\$ 255,820.29		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 274,085.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 241,973.33	Section 2, Column 2, Line 41
VARIANCE	\$ (32,111.67) =	Col. 8 of Attachment DTE-3-22 Revised

List No. 11 of Attachment DTE-3-22 Revised,  
North Andover / Genetics

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-22 Revised  
Page 2

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
-		-		286,450		286,450		-		286,450

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-22 Revised  
Page 2

Col. 10 of  
Attachment DTE-3-22 Revised  
Page 2

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ 405,989.13		\$ 3,935.19		\$ 409,924.32		
151	\$ -		\$ -		\$ -		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 405,989.13		\$ 3,935.19		\$ 409,924.32		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 286,450.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 405,989.13	Section 2, Column 2, Line 41
VARIANCE	\$ 119,539.13	= Col. 8 of Attachment DTE-3-22 Revised

List No. 12 of Attachment DTE-3-22 Revised,  
Wrentham / Outlet Mall

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-22 Revised  
Page 2

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
33,269		5,814		104,068		143,151		30,890		174,041

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-22 Revised  
Page 2

Col. 10 of  
Attachment DTE-3-22 Revised  
Page 2

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ 165.46		\$ 325.76		\$ 491.22		
151	\$ 129,757.73		\$ 14,114.12		\$ 143,871.85		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 129,923.19		\$ 14,439.88		\$ 144,363.07		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 143,151.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 129,923.19	Section 2, Column 2, Line 41
VARIANCE	\$ (13,227.81) =	Col. 8 of Attachment DTE-3-22 Revised

List No. 13 of Attachment DTE-3-22 Revised,  
Southwick / Southwick Exp., So. Longyard Rd.

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-22 Revised  
Page 2

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
31,240		15,156		65,321		111,717		31,324		143,041

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-22 Revised  
Page 2

Col. 10 of  
Attachment DTE-3-22 Revised  
Page 2

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ 124,988.01		\$ 8,357.11		\$ 133,345.12		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 124,988.01		\$ 8,357.11		\$ 133,345.12		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 111,717.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 124,988.01	Section 2, Column 2, Line 41
VARIANCE	\$ 13,271.01	= Col. 8 of Attachment DTE-3-22 Revised

List No. 14 of Attachment DTE-3-22 Revised,  
North Andover / Phillips Academy

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-22 Revised  
Page 2

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
67,774		1,360		171,076		240,210		7,137		247,347

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-22 Revised  
Page 2

Col. 10 of  
Attachment DTE-3-22 Revised  
Page 2

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ 275,207.90		\$ 15,751.62		\$ 290,959.52		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 275,207.90		\$ 15,751.62		\$ 290,959.52		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 240,210.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 275,207.90	Section 2, Column 2, Line 41
VARIANCE	\$ 34,997.90	= Col. 8 of Attachment DTE-3-22 Revised

List No. 15 of Attachment DTE-3-22 Revised,  
Agawam / South West Street

Page 2 of 115

**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-22 Revised  
Page 2

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
40,395		78,465		-		118,860		-		118,860

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-22 Revised  
Page 2

Col. 10 of  
Attachment DTE-3-22 Revised  
Page 2

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ 116,032.65		\$ 28,422.28		\$ 144,454.93		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 116,032.65		\$ 28,422.28		\$ 144,454.93		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 118,860.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 116,032.65	Section 2, Column 2, Line 41
VARIANCE	\$ (2,827.35) =	Col. 8 of Attachment DTE-3-22 Revised

List No. 16 of Attachment DTE-3-22 Revised,  
Ludlow / Electric Park

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-22 Revised  
Page 2

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
37,850		321,180		-		359,030		-		359,030

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-22 Revised  
Page 2

Col. 10 of  
Attachment DTE-3-22 Revised  
Page 2

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ 280,160.07		\$ 10,519.31		\$ 290,679.38		
151	\$ -		\$ -		\$ -		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 280,160.07		\$ 10,519.31		\$ 290,679.38		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 359,030.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 280,160.07	Section 2, Column 2, Line 41
VARIANCE	\$ (78,869.93) =	Col. 8 of Attachment DTE-3-22 Revised

# ATTACHMENT RR-DTE-137 (c)

## Project Reconciliation for Attachment DTE-3-27 Revised

List No. 1 of Attachment DTE-3-27 Revised,  
Lawrence / Clifton Street

Page 1 of 95

**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-27 Revised  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
10,641		3,178		60,938		74,757		8,311		83,068

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-27 Revised  
Page 1

Col. 10 of  
Attachment DTE-3-27 Revised  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ 131,361.63		\$ 14,363.23		\$ 145,724.86		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 131,361.63		\$ 14,363.23		\$ 145,724.86		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 74,757.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 131,361.63	Section 2, Column 2, Line 41
VARIANCE	\$ 56,604.63	= Col. 8 of Attachment DTE-3-27 Revised

List No. 2 of Attachment DTE-3-27 Revised,  
Wrentham / Wrentham Street School

Page 1 of 95

**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-27 Revised  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
34,892		5,077		47,195		87,164		8,311		95,475

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-27 Revised  
Page 1

Col. 10 of  
Attachment DTE-3-27 Revised  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ 1,569.75		\$ 3,446.27		\$ 5,016.02		
151	\$ 55,497.58		\$ 25,652.17		\$ 81,149.75		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 57,067.33		\$ 29,098.44		\$ 86,165.77		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 87,164.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 57,067.33	Section 2, Column 2, Line 41
VARIANCE	\$ (30,096.67)	= Col. 8 of Attachment DTE-3-27 Revised

List No. 3 of Attachment DTE-3-27 Revised,  
Brockton / Battles Street

Page 1 of 95

**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-27 Revised  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
7,687		1,459		43,386		52,532		7,222		59,754

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-27 Revised  
Page 1

Col. 10 of  
Attachment DTE-3-27 Revised  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ 81,079.35		\$ 6,588.80		\$ 87,668.15		
151	\$ -		\$ -		\$ -		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 81,079.35		\$ 6,588.80		\$ 87,668.15		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 52,532.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 81,079.35	Section 2, Column 2, Line 41
VARIANCE	\$ 28,547.35	= Col. 8 of Attachment DTE-3-27 Revised

List No. 4 of Attachment DTE-3-27 Revised,  
Canton / Turnpike Street

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-27 Revised  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
17,025		1,880		39,579		58,484		15,028		73,512

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-27 Revised  
Page 1

Col. 10 of  
Attachment DTE-3-27 Revised  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ 3,052.10		\$ 2,276.12		\$ 5,328.22		
151	\$ 69,147.61		\$ 8,678.98		\$ 77,826.59		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 72,199.71		\$ 10,955.10		\$ 83,154.81		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 58,484.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 72,199.71	Section 2, Column 2, Line 41
VARIANCE	\$ 13,715.71	= Col. 8 of Attachment DTE-3-27 Revised

List No. 5 of Attachment DTE-3-27 Revised,  
Wilbraham / The Woods

Page 1 of 95

**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-27 Revised  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
6,320		359		61,049		67,728		6,544		74,272

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-27 Revised  
Page 1

Col. 10 of  
Attachment DTE-3-27 Revised  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ 2,329.51		\$ 37.41		\$ 2,366.92		
151	\$ 80,317.28		\$ 9,546.29		\$ 89,863.57		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 82,646.79		\$ 9,583.70		\$ 92,230.49		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 67,728.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 82,646.79	Section 2, Column 2, Line 41
VARIANCE	\$ 14,918.79	= Col. 8 of Attachment DTE-3-27 Revised

List No. 6 of Attachment DTE-3-27 Revised,  
Monson / Bethany Road

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-27 Revised  
Page 2

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
4,734		520		43,659		48,913		5,071		53,984

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-27 Revised  
Page 2

Col. 10 of  
Attachment DTE-3-27 Revised  
Page 2

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ 64,553.56		\$ 2,613.99		\$ 67,167.55		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 64,553.56		\$ 2,613.99		\$ 67,167.55		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 48,913.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 64,553.56	Section 2, Column 2, Line 41
VARIANCE	\$ 15,640.56	= Col. 8 of Attachment DTE-3-27 Revised

List No. 7 of Attachment DTE-3-27 Revised,  
Metheun / Archibald - Chestnut Hills

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-27 Revised  
Page 2

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
853		23,998		30,159		55,010		23,640		78,650

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-27 Revised  
Page 2

Col. 10 of  
Attachment DTE-3-27 Revised  
Page 2

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ 5,782.02		\$ 2,652.48		\$ 8,434.50		
151	\$ 65,857.29		\$ 2,516.52		\$ 68,373.81		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 71,639.31		\$ 5,169.00		\$ 76,808.31		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 55,010.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 71,639.31	Section 2, Column 2, Line 41
VARIANCE	\$ 16,629.31	= Col. 8 of Attachment DTE-3-27 Revised

List No. 8 of Attachment DTE-3-27 Revised,  
North Andover / Campbell Street

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-27 Revised  
Page 2

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
629		41,975		6,141		48,745		5,132		53,877

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-27 Revised  
Page 2

Col. 10 of  
Attachment DTE-3-27 Revised  
Page 2

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ 88,345.15		\$ 14,122.19		\$ 102,467.34		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 88,345.15		\$ 14,122.19		\$ 102,467.34		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 48,745.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 88,345.15	Section 2, Column 2, Line 41
VARIANCE	\$ 39,600.15	= Col. 8 of Attachment DTE-3-27 Revised

List No. 9 of Attachment DTE-3-27 Revised,  
Attleboro / Turner Street

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-27 Revised  
Page 2

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
15,670		3,660		33,775		53,105		-		53,105

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-27 Revised  
Page 2

Col. 10 of  
Attachment DTE-3-27 Revised  
Page 2

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ 8,198.97		\$ 6,990.13		\$ 15,189.10		
151	\$ 45,236.14		\$ 5,147.77		\$ 50,383.91		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 53,435.11		\$ 12,137.90		\$ 65,573.01		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 53,105.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 53,435.11	Section 2, Column 2, Line 41
VARIANCE	\$ 330.11	= Col. 8 of Attachment DTE-3-27 Revised

List No. 10 of Attachment DTE-3-27 Revised,  
North Andover / Millpond Estates

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-27 Revised  
Page 2

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
7,682		1,000		71,104		79,786		768		80,554

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-27 Revised  
Page 2

Col. 10 of  
Attachment DTE-3-27 Revised  
Page 2

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ 54,370.44		\$ 1,405.41		\$ 55,775.85		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 54,370.44		\$ 1,405.41		\$ 55,775.85		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 79,786.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 54,370.44	Section 2, Column 2, Line 41
VARIANCE	\$ (25,415.56)	= Col. 8 of Attachment DTE-3-27 Revised

List No. 11 of Attachment DTE-3-27 Revised,  
North Andover / Edgewood Life Café

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-27 Revised  
Page 2

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
11,400		20,000		29,948		61,348		13,741		75,089

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-27 Revised  
Page 2

Col. 10 of  
Attachment DTE-3-27 Revised  
Page 2

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ 637.76		\$ -		\$ 637.76		
151	\$ 17,356.55		\$ 5,546.63		\$ 22,903.18		
170	\$ -		\$ -		\$ -		
171	\$ 48,026.65		\$ 7,314.65		\$ 55,341.30		
Total	\$ 66,020.96		\$ 12,861.28		\$ 78,882.24		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 61,348.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 66,020.96	Section 2, Column 2, Line 41
VARIANCE	\$ 4,672.96	= Col. 8 of Attachment DTE-3-27 Revised

List No. 12 of Attachment DTE-3-27 Revised,  
Northampton / Coca Cola Plant

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-27 Revised  
Page 3

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
27,870		47,100		-		74,970		-		74,970

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-27 Revised  
Page 3

Col. 10 of  
Attachment DTE-3-27 Revised  
Page 3

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ 63,138.12		\$ 42,268.43		\$ 105,406.55		
151	\$ -		\$ -		\$ -		
170	\$ 3,419.38		\$ 3,499.72		\$ 6,919.10		
171	\$ -		\$ -		\$ -		
Total	\$ 66,557.50		\$ 45,768.15		\$ 112,325.65		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 74,970.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 66,557.50	Section 2, Column 2, Line 41
VARIANCE	\$ (8,412.50) =	Col. 8 of Attachment DTE-3-27 Revised

List No. 13 of Attachment DTE-3-27 Revised,  
Palmer / Mt. Dumping Road

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-27 Revised  
Page 3

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
6,455		27,200		-		33,655		30,204		63,859

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-27 Revised  
Page 3

Col. 10 of  
Attachment DTE-3-27 Revised  
Page 3

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ 64,790.41		\$ 3,965.32		\$ 68,755.73		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 64,790.41		\$ 3,965.32		\$ 68,755.73		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 33,655.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 64,790.41	Section 2, Column 2, Line 41
VARIANCE	\$ 31,135.41	= Col. 8 of Attachment DTE-3-27 Revised

List No. 14 of Attachment DTE-3-27 Revised,  
Springfield / Thyme Street

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-27 Revised  
Page 3

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
11,365		82,775		-		94,140		-		94,140

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-27 Revised  
Page 3

Col. 10 of  
Attachment DTE-3-27 Revised  
Page 3

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ 84,685.46		\$ 20,251.25		\$ 104,936.71		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 84,685.46		\$ 20,251.25		\$ 104,936.71		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 94,140.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 84,685.46	Section 2, Column 2, Line 41
VARIANCE	\$ (9,454.54) =	Col. 8 of Attachment DTE-3-27 Revised

List No. 15 of Attachment DTE-3-27 Revised,  
Bridgewater / Tarkin Hill Estates

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**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-27 Revised  
Page 3

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
19,850		9,266		37,055		66,171		-		66,171

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-27 Revised  
Page 3

Col. 10 of  
Attachment DTE-3-27 Revised  
Page 3

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ 72,002.61		\$ 9,279.04		\$ 81,281.65		
151	\$ -		\$ -		\$ -		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 72,002.61		\$ 9,279.04		\$ 81,281.65		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 66,171.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 72,002.61	Section 2, Column 2, Line 41
VARIANCE	\$ 5,831.61	= Col. 8 of Attachment DTE-3-27 Revised

List No. 16 of Attachment DTE-3-27 Revised,  
Mansfield / Stearns Hill Estates

Page 3 of 95

**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-27 Revised  
Page 3

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
15,160		7,075		28,305		50,540		-		50,540

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-27 Revised  
Page 3

Col. 10 of  
Attachment DTE-3-27 Revised  
Page 3

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ 52,448.41		\$ 7,407.62		\$ 59,856.03		
151	\$ -		\$ -		\$ -		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 52,448.41		\$ 7,407.62		\$ 59,856.03		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 50,540.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 52,448.41	Section 2, Column 2, Line 41
VARIANCE	\$ 1,908.41	= Col. 8 of Attachment DTE-3-27 Revised

List No. 17 of Attachment DTE-3-27 Revised,  
Agawam / Red Fox Drive

Page 3 of 95

**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**  
Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-27 Revised  
Page 3

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
9,310		82,165		-		91,475		-		91,475

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**  
Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-27 Revised  
Page 3

Col. 10 of  
Attachment DTE-3-27 Revised  
Page 3

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ 55,248.11		\$ 49,055.24		\$ 104,303.35		
151	\$ -		\$ -		\$ -		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 55,248.11		\$ 49,055.24		\$ 104,303.35		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 91,475.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 55,248.11	Section 2, Column 2, Line 41
VARIANCE	\$ (36,226.89) =	Col. 8 of Attachment DTE-3-27 Revised

List No. 18 of Attachment DTE-3-27 Revised,  
Southwick / College Highway

Page 3 of 95

**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 6 of  
Attachment DTE-3-27 Revised  
Page 3

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
15,715		44,000		-		59,715		-		59,715

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 7 of  
Attachment DTE-3-27 Revised  
Page 3

Col. 10 of  
Attachment DTE-3-27 Revised  
Page 3

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ 86,970.96		\$ 17,366.28		\$ 104,337.24		
151	\$ -		\$ -		\$ -		
170	\$ -		\$ -		\$ -		
171	\$ -		\$ -		\$ -		
Total	\$ 86,970.96		\$ 17,366.28		\$ 104,337.24		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 59,715.00	Section 1, Column 4, Line 19
Actual DIRECT costs	\$ 86,970.96	Section 2, Column 2, Line 41
VARIANCE	\$ 27,255.96	= Col. 8 of Attachment DTE-3-27 Revised

COMMONWEALTH OF MASSACHUSETTS  
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO THE  
THIRD SET OF INFORMATION REQUESTS FROM THE D.T.E.  
D. T. E. 05-27

Date: August 23, 2005

Responsible: Danny G. Cote, General Manager

RR-DTE-140: Regarding DTE-3-32, detail summary, compare and reconcile discrepancies in the total project costs listed in Column 5 and Column 8 for all projects.

Response: See Attachment RR-DTE-140 (a) for an illustrated example of the Summary Report design and Attachment RR-DTE-140 (b) for each individual project reconciliation for Non-Discretionary Plant Additions, Account 367 (Mains), 2004 Steel Infrastructure Replacement Projects > \$50K.

**Background**

Attachment DTE-3-32, filed June 21, includes a summary report ("Summary Report" or "Report") of Non-Discretionary Plant Additions, Account 367 (Mains), 2004 Steel Infrastructure Replacement Projects, both estimates and actual, for all steel main replacement construction projects with actual main costs that exceeded \$50K. The source documents for Attachment DTE-3-32 are provided in DTE-3-21 Revised and AG-1-19 Revised. Column 5, "Actual Costs – Mains", of the Report addresses only the MAIN costs. The Report only addresses MAIN related costs since MAIN costs require a project specific authorization, which allows the Company to track specific project costs. All other construction related costs (e.g. services and meters) are authorized under a "blanket" authorization and not by individual specific project authorizations.

Also note, columns 4 and 5 of the Summary Report focus on DIRECT main costs (i.e., costs that are directly related to the installation of a particular project versus indirect costs or overheads that are allocated among all capital projects). Total DIRECT project costs include the following categories: (1) materials (e.g. pipe), (2) Company labor (e.g. construction / street crew and field inspection staff costs), and (3) purchases (e.g. construction contractor and police detail charges). DIRECT main costs and OVERHEAD main costs (not specifically identified) together represent a project's Total MAIN Costs as identified in Column 8.

**Summary Report Design**

The Summary Report is designed to allow the reader to match the summary report title, with each of the following: the column titles, related footnotes, summary pages and supporting documents. The following

narrative takes the reader through a step-by-step example of how to relate these elements of the Summary Report to each other using Attachment DTE-3-21 Revised as the example. By following these steps, the reader will be able to reconcile the costs listed on the Summary Report for DTE-3-32 with the detailed cost information provided in both the pre-construction project authorization forms and the post-construction work order detail.

See Attachment RR-DTE-140 (a), Page 2 of 3 for an illustrative example that demonstrates the steps necessary to reconcile estimated pre-construction Main costs (both DIRECT and TOTAL) on the Summary Report (see notation (A) on Attachment RR-DTE-140 (a)) with estimated pre-construction Main costs on the Project Authorization Form (see notation (B) on Attachment RR-DTE-140 (a)). Page 3 of 3 of Attachment RR-DTE-140 (a) is an illustrative example that reconciles actual Main costs (both DIRECT and TOTAL) on the Summary Report (see notation (C) on Attachment RR-DTE-140 (a)) with the actual Main costs on the Main Work Output summary sheet (see notation (D) on Attachment RR-DTE-140 (a)) and the Detail Project Cost Report (see notation (E) on Attachment RR-DTE-140 (a)). These examples can be applied to all project information provided in Attachment DTE-3-32.

The following are step – by – step instructions on how to work through the illustrative examples. Step 1: (Page 2 of 3) on Attachment RR-DTE140 (a) – Note the title of the Summary Report (A), which appears on Attachment DTE-3-21 Revised - “Non-Discretionary Plant Additions, Account 367 (Mains) > \$100K”. Account 367 (Mains) is in reference to the Uniform System of Accounts For Gas Companies, as prescribed by the Department of Telecommunications and Energy of Massachusetts. As noted above, the Company focused on Main costs in preparing its Summary Report as this was the most definitive and consistent means of identifying specific project costs that were booked to Bay State’s plant accounts since 1992.

Step 2: (Page 2 of 3) on Attachment RR-DTE-140 (a) – Refer to Column 4 – of Summary Report (A) - “Estimated Cost – Mains 2/”, and the accompanying Footnote 2, which states “Estimated Costs – Mains is Direct Main Cost only”. In the example, the reader will find for List No. 24 an estimated pre-construction Main cost of \$107,367.

Step 3 (Page 3 of 3) on Attachment RR-DTE-140 (a) – Refer to Column 5 - “Actual Cost – Mains 3/” and the accompanying Footnote 3, which states “Actual Cost – Mains is Direct Main Cost only”. In the example, the reader will find for List No. 24 an actual post-construction cost of \$103,146.

Step 4: (Page 3 of 3) on Attachment RR-DTE-140 (a) - Refer to Column 8 - “Total Cost – Mains 4/” and the accompanying Footnote 4, which states “Total Cost – Mains is Actual Indirect and Direct Main Costs for the

Project". In the example, the reader will find for List No. 24 an actual post-construction Total Main cost of \$139,237.50.

The following is a detailed description of the amounts presented in Column 4, Column 5, and Column 8 data sources, which is helpful to understanding the data presented in Attachment DTE-3-32.

First, the amounts in Column 4, titled "Estimated Cost – Mains 2/", are taken from the "BSG/NU Construction Authorization Order" form's "Cost Record" section. The costs reflect the project estimator's original projected budget for Materials, Company Labor, Purchases, Overheads, and Total cost.

Second, the amounts in Column 5, titled "Actual Cost – Mains 3/", and Column 8, titled "Total Cost – Mains 4/", are taken from the "List No. \_\_\_\_" Main Work Output Summary Sheet. The Main Work Output Summary Sheet reports the Direct Cost, Overhead Cost and Total Cost amounts associated with the Main Output work performed to complete the project referenced by the list number. The Company only uses the output numbers 150, 151, 170, and 171, shown on each respective Detail Project Cost Report (see notation (E) on page 3 of 3 on Attachment RR-DTE-140 (a)) to identify work associated with installing new or replacement main<sup>1</sup>. The data source for the Main Work Output Summary Sheet is the "Bay State Gas – Work Management System, Detail Project Cost Report". The "Bay State Gas – Work Management System, Detail Project Cost Report" is project specific (i.e., a Project ID number is posted in the reports upper left corner). These reports include data for every main work order issued including the direct costs components (e.g. Labor, Purchases, and Materials) and overhead cost by work output type. The relevant main outputs (#150, #151, #170 and #171) are circled on every "Bay State Gas – Work Management System, Detail Project Cost Report" provided, see DTE-3-21 Revised and AG-1-19 Revised.

An example using a Main project reported in the "Non-Discretionary Plant Additions, Account 367 (Mains) > \$100K" summary may also be helpful to understanding the data presented in Attachment DTE-3-32.

On Attachment DTE-3-21 Revised, List No. 24, Marshfield / Ferry Street, the "Estimated Cost – Mains 2/" reported for the project in Column 4 is \$107,367. The amount is calculated by summing the budget for Materials, Company Labor, and Purchases posted on the "BSG/NU Construction Authorization Order" form, \$20,529, \$3,290 and \$83,548, respectively (i.e., \$20,529 + \$3,290 + \$83,548 = \$107,367).

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<sup>1</sup> Output #150 reflects costs for New Mains installed by Company Crews. Output #151 reflects costs for New Mains installed by Contractor Crews. Output #170 reflects costs for Replacement Mains installed by Company Crews. Output #171 reflects costs for Replacement Mains installed by Contractor Crews.

On Attachment DTE-3-21 Revised, List No. 24, Marshfield / Ferry Street, the "Actual Cost – Mains 3/" reported for the project in Column 5 is \$103,367. The amount is taken from the "List No. 24" Main Work Output Summary Sheet. It is the sum of the Direct Cost for Output #150, #151, #170, and #171, \$0.00, \$0.00, \$57.30, and \$103,089.26, respectively (i.e.,  $\$0.00 + \$0.00 + \$57.30 + \$103,089.26 = \$103,147.56$ ). The Direct Cost amounts can also be taken from the original source document, the "Bay State Gas – Work Management System, Detail Project Cost Report", in DTE-3-21 Revised or AG-1-19 Revised. The amounts are circled on every "Detail Project Cost Report" provided.

**Project Reconciliation**

Attachment RR-DTE-140 (b) consists of a one page cost reconciliation worksheet for each project listed in DTE-3-32.

Each worksheet in Attachment RR-DTE-140 (b) consists of 3 sections. In Section 1, the Estimated Budgeted Main Cost is derived. In Section 2, the Actual Direct Main and the Total Main Cost are reported. In Section 3, the variance amount by which the estimate costs varied from the actual cost is calculated. All the amounts are referenced and "tie back" to the Summary Reports for DTE-3-32, DTE-3-21 Revised and AG-1-19 Revised.

As an example, on Attachment RR-DTE-140 (b), for List No. 1 of Attachment DTE-3-32, Hanover / Webster Street, the Estimated Total Direct Cost of \$132,012 is in Column 4, Line 21. The Actual Total Direct Cost of \$125,333 is in Column 2, Line 43, and the Actual Total Cost is in Column 4, Line 43.

## **ATTACHMENT RR-DTE-140 (a)**

### **Summary Report Design For Attachment DTE-3-32**

ESTIMATED  
COST

= \$107,367

Materials	—	+	\$20,529
Company Labor		+	\$ 3,290
Purchases		+	\$83,548
Total DIRECT COST		=	\$107,367

[illegible]

Non-Discretionary Plant Additions Account 367 (Mains) > \$100K <sup>1</sup>								
Col. 1 List No.	Col. 2 Year	Col. 3 Location	Col. 4 Pre-Construction Estimated Cost - Mains <sup>2</sup>	Col. 5 Actual Cost - Mains <sup>3</sup>	Col. 6 Amount the Estimate Varied from Actual Cost (+/-)	Col. 7 Percentage of Actual Cost Over or Under (-) in relation to Estimate (%)	Col. 8 Total Cost - Mains	Col. 9 Project ID
14	2001	Marshfield / Ferry St.	\$107,367	\$103,147	(\$4,220)		\$139,236	B01D5010
15	2001	Canton / High St.	\$95,938	\$138,817	\$37,879	See Justification	\$185,535	B01D5008
Justification for Cost Variance- List No. 25: BARE STEEL MAIN. In concert with municipal street reconstruction in High Street, the project was estimated to replace a deteriorating bare steel main. Crews unexpectedly encountered large rock and ledge in order to excavate the trench for new main, requiring large equipment and blasting, which took specialized labor, additional police details, coordination with municipal authorities, and increased trucking, disposal and clean up costs.								
26	2000	Northampton / Ryan Rd.	\$105,900	\$169,402	\$63,502	See Justification	\$247,361	S00D1043
Justification for Cost Variance- List No. 26: BARE STEEL MAIN. Project estimated at replacement of 3300 feet of bare steel main coordinated with full depth municipal street reconstruction by Northampton. Once exposed, the pipe condition warranted replacement of an additional 763 feet to tie in new pipe. Unexpectedly, Northampton required Bay State to foot cost of surface paving heavier than anticipated traffic volume required additional police. Final main cost includes 12 un- or under-estimated tie ins on side streets (51% of the variance).								
27	2000	W. Springfield / Riverside St. (Rte 5)	\$48,239	\$112,477	\$66,218	See Justification	\$123,692	S00D1001
Justification for Cost Variance- List No. 27: MAIN REPLACEMENT/RELIABILITY IMPROVEMENT. Riverside St. at the construction area is busy Route 5, a four-lane state highway. The initial project estimate was based on engineering for direct cost, off pavement construction. The permit, however, required breakdown lane installation, resulting in higher costs for pavement removal, controlled density fill material and police details. The use of controlled density backfill material meant that no excavated soil could be reused in the trench, adding to removal and disposal charges. Finally, the new main was installed in a trench that was determined by engineering that the abandoned line was not needed.								

FOOTNOTES

- Justifications provided for variances over 10%.
- Estimated Cost - Mains is Direct Main Cost only.
- Actual Cost - Mains is Direct Main Cost only.
- Total Cost - Mains is Actual Indirect and Direct Main Costs for the Project.

Col. 5 Actual Costs - Mains<sup>3</sup> = Mains is Direct Main Cost Only

Col. 8 Total Cost - Mains<sup>4</sup> = Mains is Actual Indirect & Direct Main Costs for the project

List No. 24			
Project: B01D5010 Location: Marshfield / Ferry Street			
Main Work Output #	Direct Cost	Overhead Cost	Total Cost
150	\$ 57.30	\$ 201.62	\$ 258.92
151			
170			
171	103,099.28	35,889.30	138,978.58
Total	\$ 103,146.58	\$ 36,090.92	\$ 139,237.50

Project ID: B01D5010  
From Date: 12/31/1993  
To Date: 12/31/2004

Bay State Gas - Work Management System  
Detail Project Cost Report

Report Date: 8/13/2005  
Report Time: 8:33:42PM

Work Code	Town Code	At Street	Work Order	Pipe Type	Pipe Size	Comp Units	Hours	Labor	Purchases	Materials	Direct Cost	Average Cost	Overhead
TRMB	173	0 Ferry	4376337-			1	1.96	57.30	0.00	0.00	57.30	57.30	201.62
Subtotal for Ferry:						1	1.96	57.30	0.00	0.00	57.30	57.30	201.62
Subtotal for Output No. : 170						1	1.96	57.30	0.00	0.00	57.30	57.30	201.62
TRMC	173	0 Barberty	4460472-1	PP	4"	1	27.68	848.20	790.00	0.00	1,638.20	1,638.20	2,034.81
Subtotal for Barberty:						1	27.68	848.20	790.00	0.00	1,638.20	1,638.20	2,034.81
MRMC	173	0 Ferry	4376327-1	PP	4"	4,053	407.00	11,553.15	76,089.87	10,148.84	97,788.86	24.13	32,428.87
TRMC	173	0 Ferry	4650479-1	PP	2"	18	407.00	11,553.15	76,089.87	10,148.84	97,788.86	24.02	32,428.87
Subtotal for Ferry:						4071	407.00	11,553.15	76,089.87	10,148.84	97,788.86	24.02	32,428.87
TRMC	173	0 Old Ferry	4480485-1			1	15.49	621.26	3,039.95	0.00	3,661.22	3,661.22	1,424.62
Subtotal for Old Ferry:						1	15.49	621.26	3,039.95	0.00	3,661.22	3,661.22	1,424.62
TRMC	173	0 Ridge	4656672-1	PP	2"	50							
Subtotal for Ridge:						50							
Subtotal for Output No. : 171						4,123	454.17	15,023.61	79,819.83	10,148.84	161,089.28	24.00	35,869.30
SRERB	173	1205 Ferry	4377438-1	PP	1/2"	1	3.54	110.08	812.86	0.00	922.94	922.94	268.33
SRERB	173	1187 Ferry	4377473-1	PP	1/2"	1	1.73	92.49	1,130.86	0.00	1,209.35	1,209.35	128.39
SRERB	173	1181 Ferry	4377479-1	PP	1/2"	1	4.43	136.51	938.74	0.00	995.85	995.85	334.03
Subtotal for Ferry:						3	9.70	299.48	2,528.48	0.00	2,827.96	2,827.96	730.75
Subtotal for Output No. : 175						3	9.70	299.48	2,528.48	0.00	2,827.96	2,827.96	730.75
SRERC	173	0 Barberty	4377511-1	PI	1/2"	1	0.00	0.00	500.00	0.00	500.00	500.00	0.00
Subtotal for Barberty:						1	0.00	0.00	500.00	0.00	500.00	500.00	0.00
SRERL	173	1148 Ferry	4377480-1	PP	1/2"	1	2.63	92.21	793.12	0.00	885.33	885.33	229.41
Subtotal for Ferry:						1	2.63	92.21	793.12	0.00	885.33	885.33	229.41

## **ATTACHMENT RR-DTE-140 (b)**

### **PROJECT RECONCILIATION For Attachment DTE-3-32**

B04D6008

RECONCILIATION WORKPAPER

Hanover / Webster Street

List No. 1 of Attachment DTE-3-32, Page 1  
&  
List No. 1 of Attachment DTE-3-21 Supplement Page 1 of 43

**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 4 of  
Attachment DTE-3-21 SUPPLEMENT  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
22,888		4,976		104,148		132,012		10,584		142,596

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 5 of  
Attachment DTE-3-21 SUPPLEMENT  
Page 1

Col. 8 of  
Attachment DTE-3-21 SUPPLEMENT  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ -		\$ -		\$ -		
170	\$ 74.22		\$ 276.44		\$ 350.66		
171	\$ 125,259.44		\$ 39,022.73		\$ 164,282.17		
Total	\$ 125,333.66		\$ 39,299.17		\$ 164,632.83		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 132,012.00	Section 1, Column 4, Line 21
Actual DIRECT costs	\$ 125,333.66	Section 2, Column 2, Line 43
VARIANCE	\$ 6,678.34 =	Col. 8 of Attachment DTE-3-21 SUPPLEMENT

Attleboro / Thatcher Ave.

List No. 2 of Attachment DTE-3-32, Page 1  
&  
List No. 3 of Attachment DTE-3-21 Revised Page 1 of 775

**ESTIMATED COST****SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 4 of  
Attachment DTE-3-21 Revised  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
15,564		5,455		35,093		56,112		7,553		63,665

**ACTUAL COST****SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 5 of  
Attachment DTE-3-21 Revised  
Page 1

Col. 8 of  
Attachment DTE-3-21 Revised  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ -		\$ -		\$ -		
170	\$ 2,737.23		\$ 2,078.59		\$ 4,815.82		
171	\$ 103,264.08		\$ 40,258.84		\$ 143,522.92		
Total	\$ 106,001.31		\$ 42,337.43		\$ 148,338.74		

**VARIANCE****SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 56,112.00	Section 1, Column 4, Line 21
Actual DIRECT costs	\$ 106,001.31	Section 2, Column 2, Line 43
VARIANCE	\$ (49,889.31)	= Col. 8 of Attachment DTE-3-21 Revised

B04D5018

RECONCILIATION WORKPAPER

Stoughton / Brock Street

List No. 3 of Attachment DTE-3-32, Page 1  
&  
List No. 5 of Attachment DTE-3-21 Revised Page 1 of 775

**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 4 of  
Attachment DTE-3-21 Revised  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
3,399		2,349		29,624		35,372		2,477		37,849

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 5 of  
Attachment DTE-3-21 Revised  
Page 1

Col. 8 of  
Attachment DTE-3-21 Revised  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ -		\$ -		\$ -		
170	\$ -		\$ -		\$ -		
171	\$ 110,610.04		\$ 31,136.36		\$ 141,746.40		
Total	\$ 110,610.04		\$ 31,136.36		\$ 141,746.40		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 35,372.00	Section 1, Column 4, Line 21
Actual DIRECT costs	\$ 110,610.04	Section 2, Column 2, Line 43
VARIANCE	\$ (75,238.04) =	Col. 8 of Attachment DTE-3-21 Revised

Foxboro / Central Street

List No. 4 of Attachment DTE-3-32, Page 1  
&  
List No. 1 of Attachment AG-1-19 Revised, Page 1 of 391

### ESTIMATED COST

#### SECTION 1: Estimated Budgeted Cost

Source: data from Main Authorization form.

Col. 4 of  
Attachment AG-1-19 Revised  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
10,829		2,630		31,501		44,960		4,431		49,391

### ACTUAL COST

#### SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 5 of  
Attachment AG-1-19 Revised  
Page 1

Col. 8 of  
Attachment AG-1-19 Revised  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ -		\$ -		\$ -		
170	\$ -		\$ -		\$ -		
171	\$ 53,467.54		\$ 17,246.57		\$ 70,714.11		
Total	\$ 53,467.54		\$ 17,246.57		\$ 70,714.11		

### VARIANCE

#### SECTION 3: Amount the Estimate Varied from Actual Cost

Estimated DIRECT costs	\$ 44,960.00	Section 1, Column 4, Line 21
Actual DIRECT costs	\$ 53,467.54	Section 2, Column 2, Line 43
VARIANCE	\$ (8,507.54)	= Col. 8 of Attachment AG-1-19 Revised

B04D5052

RECONCILIATION WORKPAPER

West Bridgewater / North Elm Street

List No. 5 of Attachment DTE-3-32, Page 1  
&  
List No. 5 of Attachment AG-1-19 Revised, Page 1 of 391

**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 4 of  
Attachment AG-1-19 Revised  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
4,956		3,237		31,538		39,731		3,477		43,208

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 5 of  
Attachment AG-1-19 Revised  
Page 1

Col. 8 of  
Attachment AG-1-19 Revised  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ -		\$ -		\$ -		
170	\$ -		\$ -		\$ -		
171	\$ 57,118.14		\$ 19,167.36		\$ 76,285.50		
Total	\$ 57,118.14		\$ 19,167.36		\$ 76,285.50		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 39,731.00	Section 1, Column 4, Line 21
Actual DIRECT costs	\$ 57,118.14	Section 2, Column 2, Line 43
VARIANCE	\$ (17,387.14) =	Col. 8 of Attachment AG-1-19 Revised

B04D5043

RECONCILIATION WORKPAPER

Wrentham / East Street

List No. 6 of Attachment DTE-3-32, Page 1  
&  
List No. 6 of Attachment AG-1-19 Revised, Page 2 of 391

**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 4 of  
Attachment AG-1-19 Revised  
Page 2

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
8,257		3,180		29,050		40,487		4,216		44,703

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 5 of  
Attachment AG-1-19 Revised  
Page 2

Col. 8 of  
Attachment AG-1-19 Revised  
Page 2

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ -		\$ -		\$ -		
170	\$ -		\$ -		\$ -		
171	\$ 56,893.41		\$ 18,292.91		\$ 75,186.32		
Total	\$ 56,893.41		\$ 18,292.91		\$ 75,186.32		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 40,487.00	Section 1, Column 4, Line 21
Actual DIRECT costs	\$ 56,893.41	Section 2, Column 2, Line 43
VARIANCE	\$ (16,406.41) =	Col. 8 of Attachment AG-1-19 Revised

B03D5073

RECONCILIATION WORKPAPER

Easton / Washington Street

List No. 7 of Attachment DTE-3-32, Page 2  
&  
List No. 9 of Attachment AG-1-19 Revised, Page 2 of 391

**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 4 of  
Attachment AG-1-19 Revised  
Page 2

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
10,951		2,275		41,601		54,827		4,953		59,780

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 5 of  
Attachment AG-1-19 Revised  
Page 2

Col. 8 of  
Attachment AG-1-19 Revised  
Page 2

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ -		\$ -		\$ -		
170	\$ 14,065.30		\$ 8,741.29		\$ 22,806.59		
171	\$ 75,885.11		\$ 21,684.05		\$ 97,569.16		
Total	\$ 89,950.41		\$ 30,425.34		\$ 120,375.75		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 54,827.00	Section 1, Column 4, Line 21
Actual DIRECT costs	\$ 89,950.41	Section 2, Column 2, Line 43
VARIANCE	\$ (35,123.41) =	Col. 8 of Attachment AG-1-19 Revised

B03D5077

RECONCILIATION WORKPAPER

West Bridgewater / South Main Street

List No. 8 of Attachment DTE-3-32, Page 2  
&  
List No. 10 of Attachment AG-1-19 Revised, Page 2 of 391

**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 4 of  
Attachment AG-1-19 Revised  
Page 2

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
9,602		2,085		15,752		27,439		3,753		31,192

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 5 of  
Attachment AG-1-19 Revised  
Page 2

Col. 8 of  
Attachment AG-1-19 Revised  
Page 2

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ -		\$ -		\$ -		
170	\$ 854.51		\$ 1,627.94		\$ 2,482.45		
171	\$ 54,513.95		\$ 7,507.88		\$ 62,021.83		
Total	\$ 55,368.46		\$ 9,135.82		\$ 64,504.28		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 27,439.00	Section 1, Column 4, Line 21
Actual DIRECT costs	\$ 55,368.46	Section 2, Column 2, Line 43
VARIANCE	\$ (27,929.46) =	Col. 8 of Attachment AG-1-19 Revised

Franklin / Cottage Street

List No. 9 of Attachment DTE-3-32, Page 2  
&  
List No. 20 of Attachment AG-1-19 Revised, Page 4 of 391

### ESTIMATED COST

#### SECTION 1: Estimated Budgeted Cost

Source: data from Main Authorization form.

Col. 4 of  
Attachment AG-1-19 Revised  
Page 4

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
7,045		5,207		46,487		58,739		5,375		64,114

### ACTUAL COST

#### SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 5 of  
Attachment AG-1-19 Revised  
Page 4

Col. 8 of  
Attachment AG-1-19 Revised  
Page 4

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ -		\$ -		\$ -		
170	\$ -		\$ -		\$ -		
171	\$ 69,571.93		\$ 25,897.75		\$ 95,469.68		
Total	\$ 69,571.93		\$ 25,897.75		\$ 95,469.68		

### VARIANCE

#### SECTION 3: Amount the Estimate Varied from Actual Cost

Estimated DIRECT costs	\$ 58,739.00	Section 1, Column 4, Line 21
Actual DIRECT costs	\$ 69,571.93	Section 2, Column 2, Line 43
VARIANCE	\$ (10,832.93)	= Col. 8 of Attachment AG-1-19 Revised

Stoughton / Morton Street

List No. 10 of Attachment DTE-3-32, Page 2  
&  
List No. 21 of Attachment AG-1-19 Revised, Page 4 of 391

### ESTIMATED COST

#### SECTION 1: Estimated Budgeted Cost

Source: data from Main Authorization form.

Col. 4 of  
Attachment AG-1-19 Revised  
Page 4

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
4,981		5,746		52,256		62,983		5,272		68,255

### ACTUAL COST

#### SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 5 of  
Attachment AG-1-19 Revised  
Page 4

Col. 8 of  
Attachment AG-1-19 Revised  
Page 4

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ -		\$ -		\$ -		
170	\$ 95,667.45		\$ 10,314.04		\$ 105,981.49		
171	\$ -		\$ -		\$ -		
Total	\$ 95,667.45		\$ 10,314.04		\$ 105,981.49		

### VARIANCE

#### SECTION 3: Amount the Estimate Varied from Actual Cost

Estimated DIRECT costs	\$ 62,983.00	Section 1, Column 4, Line 21
Actual DIRECT costs	\$ 95,667.45	Section 2, Column 2, Line 43
VARIANCE	\$ (32,684.45) =	Col. 8 of Attachment AG-1-19 Revised

B04D5092

RECONCILIATION WORKPAPER

Attleboro / Wilmarth Street

List No. 11 of Attachment DTE-3-32, Page 3  
&  
List No. 22 of Attachment AG-1-19 Revised, Page 5 of 391

**ESTIMATED COST**

**SECTION 1: Estimated Budgeted Cost**

Source: data from Main Authorization form.

Col. 4 of  
Attachment AG-1-19 Revised  
Page 5

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
1,444		3,109		49,318		53,871		2,557		56,428

**ACTUAL COST**

**SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:**

Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 5 of  
Attachment AG-1-19 Revised  
Page 5

Col. 8 of  
Attachment AG-1-19 Revised  
Page 5

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ -		\$ -		\$ -		
170	\$ 3,726.96		\$ 3,374.11		\$ 7,101.07		
171	\$ 56,722.20		\$ 20,456.14		\$ 77,178.34		
Total	\$ 60,449.16		\$ 23,830.25		\$ 84,279.41		

**VARIANCE**

**SECTION 3: Amount the Estimate Varied from Actual Cost**

Estimated DIRECT costs	\$ 53,871.00	Section 1, Column 4, Line 21
Actual DIRECT costs	\$ 60,449.16	Section 2, Column 2, Line 43
VARIANCE	\$ (6,578.16) =	Col. 8 of Attachment AG-1-19 Revised

B04D5072

RECONCILIATION WORKPAPER

Taunton / Short Street  
List No. 12 of Attachment DTE-3-32, Page 3  
&  
List No. 1 of Attachment DTE-3-21 Revised Page 1 of 775

**ESTIMATED COST**

SECTION 1: Estimated Budgeted Cost  
Source: data from Main Authorization form.

Col. 4 of  
Attachment DTE-3-21 Revised  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
29,990		10,316		101,519		141,825		14,433		156,258

**ACTUAL COST**

SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:  
Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 5 of  
Attachment DTE-3-21 Revised  
Page 1

Col. 8 of  
Attachment DTE-3-21 Revised  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ -		\$ -		\$ -		
170	\$ 121,838.57		\$ 38,640.80		\$ 160,479.37		
171	\$ -		\$ -		\$ -		
Total	\$ 121,838.57		\$ 38,640.80		\$ 160,479.37		

**VARIANCE**

SECTION 3: Amount the Estimate Varied from Actual Cost

Estimated DIRECT costs	\$ 141,825.00	Section 1, Column 4, Line 21
Actual DIRECT costs	\$ 121,838.57	Section 2, Column 2, Line 43
VARIANCE	\$ 19,986.43 =	Col. 8 of Attachment DTE-3-21 Revised

B03D5072

RECONCILIATION WORKPAPER

Randolph / Vesey Road

List No. 13 of Attachment DTE-3-32, Page 3  
&  
List No. 4 of Attachment AG-1-19 Revised, Page 1 of 391

**ESTIMATED COST**

SECTION 1: Estimated Budgeted Cost  
Source: data from Main Authorization form.

Col. 4 of  
Attachment AG-1-19 Revised  
Page 1

[1]	+	[2]	+	[3]	=	[4]	+	[5]	=	[6]
<u>Materials</u>		<u>Company Labor</u>		<u>Purchases</u>		<u>Total DIRECT</u>		<u>Overheads</u>		<u>Total w/ Overheads</u>
4,998		5,148		30,284		40,430		4,850		45,280

**ACTUAL COST**

SECTION 2: Actual DIRECT & TOTAL Costs - from Main Output Summary Sheet:  
Source: the circled numbers on the "Bay State Gas - Work Management System Detail Project Cost Report"

Col. 5 of  
Attachment AG-1-19 Revised  
Page 1

Col. 8 of  
Attachment AG-1-19 Revised  
Page 1

[1]	[2]	+	[3]	=	[4]	[5]	[6]
<u>Main Work Output #</u>	<u>DIRECT Cost</u>		<u>Overhead Cost</u>		<u>Total Cost</u>		
150	\$ -		\$ -		\$ -		
151	\$ -		\$ -		\$ -		
170	\$ 73,638.33		\$ 13,397.34		\$ 87,035.67		
171	\$ -		\$ -		\$ -		
Total	\$ 73,638.33		\$ 13,397.34		\$ 87,035.67		

**VARIANCE**

SECTION 3: Amount the Estimate Varied from Actual Cost

Estimated DIRECT costs	\$ 40,430.00	Section 1, Column 4, Line 21
Actual DIRECT costs	\$ 73,638.33	Section 2, Column 2, Line 43
VARIANCE	\$ (33,208.33) =	Col. 8 of Attachment AG-1-19 Revised

COMMONWEALTH OF MASSACHUSETTS  
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO THE  
THIRD SET OF INFORMATION REQUESTS FROM THE D.T.E.  
D. T. E. 05-27

Date: August 23, 2005

Responsible: Danny G. Cote, General Manager

RR-DTE-150: Refer to DTE-3-21 Revised, List No. 86, what is the amount reimbursed to the Company for the project.

Response: The Company was reimbursed \$220,918.63 by the Commonwealth of Massachusetts / Massachusetts Highway Department for the Project ID B95C0002 (List No. 86 of DTE-3-21 Revised).

At this time the Company is unable to confirm that these reimbursed funds were properly credited to utility plant in service.

COMMONWEALTH OF MASSACHUSETTS  
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO  
RECORD REQUESTS FROM THE UWUA

D.T.E. 05-27

Date: August 23, 2005

Responsible: Stephen H. Bryant, President

RR-UWUA-10: Regarding the NiSource / IBM contract, Exhibit 6, page 1, paragraph No. 2, please provide the correct reference to the Service Agreement.

Response: The correct reference is to Section 9.5(a) of the Service Agreement.

COMMONWEALTH OF MASSACHUSETTS  
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO  
RECORD REQUESTS FROM THE D.T.E.  
D.T.E. 05-27

Date: August 23, 2005

Responsible: Lawrence R. Kaufmann

**REVISED**

RR-DTE-162: Refer to Exh.BSG/Rebuttal-5, at 2. The Company stated that Dr. Pereira's recommended changes to the PBR will generally not support the Department's objectives for effective regulation. Please elaborate on this.

Response: Dr. Pereira's recommended changes to the Company's PBR plan are ill-founded, arbitrary, inconsistent with Department precedent, and contrary to the Department's objectives for effective regulation. Implementing Dr. Pereira's proposal would represent a significant step backwards in the evolution of the Department's regulatory policy. In my opinion, this PBR proposal would also have negative repercussions for other energy utilities in the State and, ultimately, for Massachusetts ratepayers.

It should first be noted that Dr. Pereira's proposal for a partial PBR – or, in his most recent terminology, “different X factors for different cost components” – rests on a false premise. Dr. Pereira claims there is evidence that Bay State improved its O&M cost performance, but not its non-O&M cost (*i.e.* capital cost) performance, while it was under the rate freeze. For example, in his response to Data Request DTE-DOER-1-6, Dr. Pereira says “the justification for the rate freeze proposal to a portion of the Company's costs (*i.e.* its capital costs) is a result of the lack of evidence to indicate that the previous rate freeze had any positive impacts on total costs or costs other than O&M costs.” He attempts to support this claim using data put forward in my response to Data Request DTE-4-36. Using data presented in my response, Dr. Pereira compares changes in the Company's capital quantity index over the 1993-2000 period to changes in its capital quantity index over the 1998-2000 period. These comparisons are simply meaningless, since the periods Dr. Pereira uses do not correspond to the years before (*i.e.* 1993-98) and during (*i.e.* 1998-2003) Bay State's rate freeze.

Moreover, Dr. Pereira's analysis distorts the real efficiency gains that the Company achieved in its use of capital inputs during the freeze. These gains are evident in my response to DTE-4-36. The table presented in this response shows that Bay State's capital input quantity index grew by 3.04% per annum in the pre-freeze period (1993-98), compared with 1.21% growth per annum in the freeze period (1998-2003). Bay State thus achieved a 60% deceleration in the growth of its capital inputs while

under the rate freeze (*i.e.*  $1.21\% = 3.04\% * 0.4$ , so the capital input trend under the rate freeze is 60% slower than the trend before the rate freeze). This improvement in Bay State's capital cost performance is comparable to the improvement in Boston Gas's O&M cost performance that the Department cited in the Order in DTE 03-40. In that proceeding, the Department noted that Boston Gas's O&M costs grew by 1.9% per annum before PBR and only 0.6% per annum during PBR, which is equal to a 68% deceleration. The Department used this evidence to infer cause and not coincidence regarding the salutary impacts of PBR on the Company's efficiency, and it ultimately approved a 0.3% consumer dividend for Boston Gas. Bay State's *capital* cost performance during its rate freeze is comparable to the trends cited favorably in DTE 03-40 and used by the Department to support a consumer dividend value of 0.3% which, in turn, is the value of Bay State's proposed consumer dividend. Dr. Pereira ignores this evidence and its relationship to the DTE 03-40 precedent, which directly undermines his claim that 0.3% is an appropriate consumer dividend when indexing is applied to O&M costs but not when it is applied to capital costs.<sup>1</sup>

In addition, Dr. Pereira either does not understand or misrepresents the regulatory precedents he cites in support of his partial PBR plan. For example, in his response to DTE-DOER-1-3, he cites an early PBR plan for San Diego Gas and Electric and the "first generation PBR plans for electricity distribution companies in Ontario" as examples where different indexing formulas were applied to "sunk" capital costs and O&M costs. In fact, the Ontario electricity distribution plan did not apply different indexing formulas to O&M and capital costs, although it did construct an industry-specific inflation measure (*e.g.* as opposed to the GDP-PI as an inflation measure) which used different input price subindexes for capital and O&M inputs. In this same response, Dr. Pereira also claims that the PBR plan approved for Enbridge Gas Distribution in Ontario was an example "where a PBR has been applied to a portion of the Company's costs due to lack of unavailable data." In fact, the "lack of unavailable data" had nothing to do with why a targeted PBR plan was applied to Enbridge's O&M costs. This targeted plan was designed as a "trial" that was supposed to be a bridge to comprehensive PBR, but Enbridge did not renew the plan when it expired. One reason the plan was not renewed was that consumers did not believe they benefited under the plan. This was due, in part, to the fact that the plan did not include an earnings sharing mechanism (ESM) and this, in turn, was partially due to the fact that the plan itself was partial or "targeted," so it was considered more

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<sup>1</sup> It should also be noted that Dr. Pereira compares the capital quantity indexes of Bay State to those of other Northeast gas distributors in his response to DTE-DOER-1-6. Again, this comparison is meaningless, since the values of capital stocks can differ dramatically across distributors because of differences in the spatial patterns of customers in service territories, the age of the capital stock, and similar factors beyond management control. A rigorous comparison of capital input quantities across distributors would have to control for such factors through econometric methods, which Dr. Pereira has failed to do.

difficult to craft an ESM that solely reflected the gains associated with the targeted cost components.

Because Dr. Pereira relies heavily on precedents from Ontario to support his proposal for a partial PBR (or, using recent terminology, a PBR with different X factors for different cost components), it is instructive to consider the most recent regulatory developments in Ontario. Those developments are part of the record in this case, since I was an advisor to Ontario's Energy Board (OEB) during the 2004-2005 Natural Gas Forum conducted in the Province, and in RR-DTE-26 the Department asked me to "provide studies from other countries that have examined the benefits of Performance Based Ratemaking, including all other documents pertaining to the Ontario and Southern California cases." In response, I provided my report to the OEB [*Discussion Paper on Rate Regulation in Ontario* (September 2004)] as well as the OEB's Final Report from the Forum [*Natural Gas Regulation in Ontario: A Renewed Policy Framework* (March 2005)]. The latter document explicitly considered the issue of whether future PBRs in Ontario should be comprehensive or targeted. The OEB wrote

A related matter is whether the IR (incentive regulation) framework should be comprehensive or targeted – in other words, whether the plan should apply to all costs or only to some costs. The targeted approach was tried with the Enbridge plan. The comprehensive approach was used for Union and for Ontario's local electricity distribution companies, and it is the more common approach in other jurisdictions. The Board's view is that the targeted approach did not work effectively because it diluted and distorted the incentives, and that a comprehensive model is preferable (p. 22).

Three points from this passage and the OEB's Final Report more generally are worth noting. First, the OEB explicitly states that the electricity distribution PBR plans were "comprehensive" and the Enbridge PBR plan was targeted, whereas Dr. Pereira's response to DTE-DOER-1-3 leaves the very strong impression that both were targeted in some sense. Second, the OEB Report refers to the Enbridge PBR as a "trial" plan. Third, and most importantly, the Enbridge PBR plan is in essence identical to that proposed by Dr. Pereira for Bay State in this case: it featured an indexing formula that applied only to O&M costs, while capital costs were frozen during the term of the plan. The OEB explicitly considered, and rejected, the Enbridge plan as a model for future rate regulation in Ontario, citing the diluted and distorted incentives it created. The OEB will instead pursue comprehensive PBR as the basis for gas distribution regulation in the Province. Far from supporting Dr. Pereira's recommendation, the Ontario precedents he cites highlight the flaws in his approach and the superiority of the Company's alternative.

It should also be recognized that Dr. Pereira's proposal is not consistent with Department precedents. In his response to DTE-DOER-1-5, he

implies that this is not the case, since the Department has approved both rate freezes and index-based PBR plans, and his proposal simply combines “different X factors to reflect differing expectations for cost performance over the term of the PBR plan.” As previously discussed, the premise of “differing expectations for cost performance” which motivates Dr. Pereira’s recommendation is not valid but, on a more fundamental level, it should be recognized that his proposed approach is entirely *ad hoc*. Dr. Pereira arbitrarily chooses rate adjustment formulas for different cost components without providing a theoretical foundation or empirical evidence to support any of his recommendations. Simply noting that the Department has chosen different regulatory approaches for different situations (rate freezes largely for mergers, rate indexing in more conventional regulatory proceedings) does not mean it is appropriate to cut and paste these approaches at will. Doing this would be no more valid than applying different ROEs for different types of capital (e.g. older capital versus capital additions since the last rate case) simply because the Department has chosen different allowed ROEs at different times. The terms of PBR formulas in Massachusetts have been developed through a well-defined theoretical framework that has been applied to telecom and energy utilities in the State. This framework also has ample precedent in other jurisdictions. Dr. Pereira is asking the Department to overturn this well-established methodology, and the accretion of regulatory evidence and experience in Massachusetts, in favor of arbitrarily-applied rate adjustments that have no basis in either economic reasoning or empirical evidence.

In addition to leading to more arbitrary outcomes, Dr. Pereira’s recommended approach will not advance the Department’s objectives for effective incentive regulation. Compared with cost of service regulation, the Department in D.P.U. 94-158 concluded that “five broad classes of potential benefits are associated with incentive regulation: improved X-efficiency; improved allocative efficiency; improved dynamic efficiency; facilitation of new services; and reduced administrative costs.” (pp. 52-53). X efficiency refers to the ability to operate as cost effectively as possible, given the available technology. The Department refers to allocative efficiency as “the ability to provide service using the optimal combination of inputs, thereby minimizing total cost.” (p. 53). This is indeed one manifestation of allocative efficiency, but another is the ability to price utility services as efficiently as possible. Allocatively efficient prices are generally promoted via pricing flexibility e.g. prices can be adjusted to reflect changes in customers’ competitive opportunities. Dynamic efficiency refers to utilities’ longer-run investment behavior and reflects efficiencies related to research, reorganization and capital equipment choices. Because it is focused on the longer run, dynamic efficiency is also related to innovation and the provision of new services.

Compared with the Company’s proposal, Dr. Pereira’s recommended PBR alternative is less likely to promote each of these objectives. The points below do not constitute an exhaustive analysis, but consider the following:

*Improved X efficiency* Dr. Pereira's recommended ESM will frustrate Bay State's performance incentives and make it less likely that the Company will pursue initiatives that would otherwise improve efficiency and benefit customers. A simple example of how this can occur, which Dr. Pereira has not disputed, was presented in my rebuttal testimony. If Bay State is considering an initiative that requires upfront costs in Year 1 but raises ROE by 100 basis points thereafter, the Company will not undertake this project if Dr. Pereira's ESM is in effect, since doing so reduces its earnings *i.e.* the Company incurs the cost in Year 1 but does not retain any benefits from later years.

*Improved Allocative Efficiency* Dr. Pereira acknowledges (RR-DTE-120) that his proposal does not allow for pricing flexibility, which necessarily runs counter to the promotion of allocative efficiency. In addition, regulation that enshrines the principle that different X factors may be chosen for different cost components can actively distort a company's incentives to pursue cost efficiency in one area vis-à-vis another. Utilities evaluating how best to reduce costs under this type of regulation will naturally consider how reductions in different set of costs may impact their respective future X factors. For example, managers may decide simply to forgo cost reductions in an area where costs have already been cut because doing so makes other areas look "inefficient" by comparison, thereby leading to higher X factors for those cost components in the future. Managers should not be making decisions on how to improve efficiency by considering the regulatory implications of reducing costs in one area versus another. Doing so can only distort these decisions and make it less likely that they will choose "the optimal combination of inputs, thereby minimizing total cost." The Company's PBR proposal is neutral with regard to cost reduction incentives across different areas, whereas by choosing different X factors for different cost components Dr. Pereira's is not.

*Improved Dynamic Efficiency and Facilitation of New Services* Dynamic efficiency and the facilitation of new services can both be distorted by each of the problems noted above. For example, dynamic efficiency and new service development almost always require significant upfront costs, and the timing of benefits is uncertain and, particularly in early years, relatively small. Dr. Pereira's recommended approach makes it less likely that the Company will pursue such initiatives, since the relatively small, early returns on such investment would all be returned to customers and the Company would retain none. This distorts the net present value (NPV) calculation associated with an investment and makes it less likely it will be pursued.

*Reduced Administrative Costs* Reviews of utility PBR plans will be much more cumbersome and costly under Dr. Pereira's approach. There would be incentives for intervenors to identify relatively inefficient cost areas that require higher X factors, which may prompt vast new areas of discovery and dispute. In addition, because it is arbitrary, Dr. Pereira's rate formula

is less likely to lead to "just and reasonable" rate adjustments during the term of a PBR plan. This could lead utilities to exercise their statutory rights to file new rate cases during the term of a plan. While utilities in Massachusetts have these rights, all parties agree it is highly desirable to design PBR to prevent rate cases during the terms of PBR plans, which would naturally serve to increase administrative costs.

In sum, Dr. Pereira's proposes arbitrary adjustments of the Company's PBR plan to address a non-existent problem. His regulatory approach is unprecedented in Massachusetts and has been judged to create "diluted and distorted incentives" in Ontario, where it has been tried and discarded. While I believe Dr. Pereira's proposal is sincerely motivated by a desire to improve regulation in the State, it has not been well thought-through. Compared with Bay State's alternative, Dr. Pereira's PBR proposal will unambiguously create worse performance incentives for the Company, not advance the Department's objectives for effective regulation, and ultimately create less benefit for Massachusetts ratepayers.

COMMONWEALTH OF MASSACHUSETTS  
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO  
RECORD REQUESTS FROM THE UWUA

D.T.E. 05-27

Date: August 23, 2005

Responsible: Stephen H. Bryant, President

RR-UWUA-10: Regarding the NiSource / IBM contract, Exhibit 6, page 1, paragraph No. 2, please provide the correct reference to the Service Agreement.

Response: The correct reference is to Section 9.5(a) of the Service Agreement.